1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Ashland P.O. Box 2219 Columbus, OH 43216	Regulatory Information Number Telephone Emergency telephone number	1-800-325-3751 614-790-3333 1-800-ASHLAND (1-800-274-5263)

Product name ACETIC ACID

Product code 35507
Product Use Description No data

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance: liquid

DANGER! FLAMMABLE LIQUID AND VAPOR. MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN. MAY BE HARMFUL. MAY CAUSE SEVERE BURNS OF RESPIRATORY AND DIGESTIVE TRACTS. CAUSES SEVERE BURNS OF THE EYES AND SKIN.

Potential Health Effects

Exposure routes

Inhalation, Skin absorption, Skin contact, Eye Contact, Ingestion

Eye contact

Can cause permanent eye injury. Symptoms include stinging, tearing, redness, and swelling of eyes. Can injure the cornea and cause blindness.

Skin contact

Can cause permanent skin damage. Symptoms may include redness, burning, and swelling of skin, burns, and other skin damage. Additional symptoms of skin contact may include: abnormal coloring of the skin Passage of this material into the body through the skin is possible, and may add to toxic effects from breathing or swallowing.

Ingestion

Swallowing this material may be harmful or fatal. Symptoms may include severe stomach and intestinal irritation (nausea, vomiting, diarrhea), abdominal pain, and vomiting of blood. Swallowing this material may cause burns and destroy tissue in the mouth, throat, and digestive tract. Low blood pressure and shock may occur as a result of severe tissue injury.

Inhalation

Breathing of vapor or mist is possible. Breathing this material may be harmful or fatal. Symptoms may include severe irritation and burns to the nose, throat, and respiratory tract.

Aggravated Medical Condition

Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material:, skin, lung (for example, asthma-like conditions)

Symptoms

Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:, stomach or intestinal upset (nausea, vomiting, diarrhea), irritation (nose, throat, airways), Lung irritation, difficult breathing, lung edema (fluid buildup in the lung tissue)

Target Organs

Overexposure to this material (or its components) has been suggested as a cause of the following effects in humans:, damage to tooth enamel, chronic bronchitis, effects on lung function

Carcinogenicity

There is no information available. The chance of this material causing cancer is unknown. This material is not listed as a carcinogen by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), or the Occupational Safety and Health Administration (OSHA).

Reproductive hazard

Based on the available information, risk to the fetus from maternal exposure to this material cannot be assessed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components	CAS-No.	Concentration
ACETIC ACID GLACIAL	64-19-7	>=50-<60%

4. FIRST AID MEASURES

Eyes

If material gets into the eyes, immediately flush eyes gently with water for at least 15 minutes while holding eyelids apart. If symptoms develop as a result of vapor exposure, immediately move individual away from exposure and into fresh air before flushing as recommended above. Seek immediate medical attention.

Skin

Immediately flush skin with water for at least 15 minutes while removing contaminated clothing and shoes. Seek immediate medical attention. Wash clothing before reuse and discard contaminated shoes.

Ingestion

Seek immediate medical attention. Do not induce vomiting. Vomiting will cause further damage to the mouth and throat. If individual is conscious and alert, immediately rinse mouth with water and give milk or water to drink. If possible, do not leave individual unattended.

Inhalation

If symptoms develop, immediately move individual away from exposure and into fresh air. Seek immediate medical attention; keep person warm and quiet. If person is not breathing, begin artificial respiration. If breathing is difficult, administer oxygen.

Notes to physician

Hazards: No information available.
Treatment: No information available.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Water spray, Carbon dioxide (CO2), Dry chemical, Alcohol-resistant foam

Hazardous combustion products

May form:, acid vapors, carbon dioxide and carbon monoxide, various hydrocarbons

Precautions for fire-fighting

Material is volatile and readily gives off vapors which may travel along the ground or be moved by ventilation and ignited by pilot lights, flames, sparks, heaters, smoking, electric motors, static

discharge or other ignition sources at locations near the material handling point. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.Wear full firefighting turn-out gear (full Bunker gear), and respiratory protection (SCBA).

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

For personal protection see section 8. Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source. Prevent from entering drains, sewers, streams or other bodies of water. Prevent from spreading. If runoff occurs, notify authorities as required. Pump or vacuum transfer spilled product to clean containers for recovery. Absorb unrecoverable product. Transfer contaminated absorbent, soil and other materials to containers for disposal.

Environmental precautions

Prevent run-off to sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that a spill has occurred.

Methods for cleaning up

Cover with soda ash. Mix and scoop into a beaker of water.

7. HANDLING AND STORAGE

Handling

Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed. Never add water to acids. Always add acids to water. Static ignition hazard can result from handling and use. Electrically bond and ground all containers, personnel and equipment before transfer or use of material. Special precautions may be necessary to dissipate static electricity for non-conductive containers. Use proper bonding and grounding during product transfer as described in National Fire Protection Association document NFPA 77.

Storage

Do not allow moisture or water contamination of product.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

ACETIC ACID GLACIAL		64-19-7
CAD AB OEL	time weighted average	10 ppm
CAD AB OEL	time weighted average	25 mg/m3
CAD AB OEL	Short term exposure limit	15 ppm
CAD AB OEL	Short term exposure limit	37 mg/m3
CAD BC OEL	time weighted average	10 ppm
CAD BC OEL	Short term exposure limit	15 ppm
CAD ON OEL	time weighted average	10 ppm
CAD ON OEL	time weighted average	25 mg/m3
CAD ON OEL	Short term exposure limit	15 ppm
CAD ON OEL	Short term exposure limit	37 mg/m3
OEL (QUE)	time weighted average	10 ppm
OEL (QUE)	time weighted average	25 mg/m3
OEL (QUE)	Short term exposure limit	15 ppm
OEL (QUE)	Short term exposure limit	37 mg/m3

General advice

These recommendations provide general guidance for handling this product. Personal protective equipment should be selected for individual applications and should consider factors which affect exposure potential, such as handling practices, chemical concentrations and ventilation. It is ultimately the responsibility of the employer to follow regulatory guidelines established by local authorities.

Exposure controls

Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLV(s).

Eye protection

Chemical splash goggles and face shield (8" min.) in compliance with OSHA regulations are advised; however, OSHA regulations also permit other type safety glasses. (Consult your industrial hygienist.) Maintain eye wash station near work area.

Skin and body protection

To prevent skin contact, wear impervious clothing and boots.
Other protective equipment: eyewash station, emergency shower.
Wear impervious gloves (consult your safety equipment supplier).

Respiratory protection

If workplace exposure limit(s) of product or any component is exceeded (see exposure guidelines), a NIOSH-approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH respirators (negative pressure type) under specified conditions (see your industrial hygienist). Engineering or administrative controls should be implemented to reduce exposure.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	liquid
Form	no data available
Colour	no data available
Odour	no data available
Boiling point/boiling range	212 °F / 100 °C @ 1,013.33 hPa Calculated Phase Transition Liquid/Gas
Melting point/range	no data available
Sublimation point	no data available
pH	no data available
Flash point	179.58 °F / 81.99 °C
Ignition temperature	no data available
Evaporation rate	no data available
Lower explosion limit/Upper explosion limit	4 %(V) / 19.9 %(V) Calculated Explosive Limit
Particle size	no data available
Vapour pressure	23.333 hPa @ 68 °F / 20 °C Calculated Vapor Pressure
Relative vapour density	no data available
Density	1.050 g/cm3
Bulk density	No data
Water solubility	no data available
Solubility(ies)	no data available
Partition coefficient: n-octanol/water	no data available
log Pow	no data available
Autoignition temperature	no data available
Viscosity, dynamic	no data available
Viscosity, kinematic	no data available
Solids in Solution	no data available
Decomposition temperature	no data available
Burning number	no data available
Dust explosion constant	no data available
Minimum ignition energy	no data available

10. STABILITY AND REACTIVITY

Stability

Stable.

Conditions to avoid
Avoid contact with:, heat

Incompatible products
Avoid contact with:, amines, halogens, peroxides, strong alkalis, strong mineral acids, strong oxidizing agents

Hazardous decomposition products
acid vapors, carbon dioxide and carbon monoxide, various hydrocarbons

Hazardous reactions
Product will not undergo hazardous polymerization., Acid reacts with most metals to release hydrogen gas which can form explosive mixtures with air.

Thermal decomposition
No data

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity
ACETIC ACID GLACIAL : LD 50 Rat: 3,310 mg/kg
LD 50 Rat: 3,530 mg/kg

Acute inhalation toxicity
ACETIC ACID GLACIAL : LC 50 Mouse: 5,000 mg/l; 1 h

Acute dermal toxicity
ACETIC ACID GLACIAL : LD 50 Rabbit: 1,060 mg/kg

12. ECOLOGICAL INFORMATION

Biodegradability
ACETIC ACID GLACIAL : 74 %
Exposure time: 14 d
Method: OECD Test Guideline 301C

Bioaccumulation
ACETIC ACID GLACIAL : no data available

Ecotoxicity effects

Toxicity to fish
ACETIC ACID GLACIAL : 96 h static test LC 50 Bluegill (Lepomis macrochirus): 75.00 mg/l Method: Static; Mortality
96 h static test LC 50 Fathead minnow (Pimephales promelas): 79.00 mg/l Method: Static; Mortality

Toxicity to daphnia and other aquatic invertebrates.
ACETIC ACID GLACIAL : 48 h static test EC 50 Water flea (Daphnia magna): 65.00 mg/l

Toxicity to algae
ACETIC ACID GLACIAL : no data available

Toxicity to bacteria
ACETIC ACID GLACIAL : no data available

Biochemical Oxygen Demand (BOD)
ACETIC ACID GLACIAL : Biochemical oxygen demand within 5 days: 0.34 - 0.88 g/g

Chemical Oxygen Demand (COD)
ACETIC ACID GLACIAL : > 1 g/g
Method: Chemical oxygen demand

Additional ecological information
ACETIC ACID GLACIAL : no data available

13. DISPOSAL CONSIDERATIONS

Waste disposal methods

Dispose of in accordance with all applicable local, state and federal regulations. For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact Ashland Distribution's Environmental Services Group at 800-637-7922.

14. TRANSPORT INFORMATION

REGULATION

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.

U.S. DOT - ROAD

Not dangerous goods

U.S. DOT - RAIL

Not dangerous goods

U.S. DOT - INLAND WATERWAYS

Not dangerous goods

TRANSPORT CANADA - ROAD

Not dangerous goods

TRANSPORT CANADA - RAIL

Not dangerous goods

TRANSPORT CANADA - INLAND WATERWAYS

Not dangerous goods

INTERNATIONAL MARITIME DANGEROUS GOODS

Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

Not dangerous goods

***ORM = ORM-D, CBL = COMBUSTIBLE LIQUID**

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

15. REGULATORY INFORMATION

WHMIS Classification

B3 Combustible Liquid

E Corrosive Material

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

Canadian National Pollutant Release Inventory (NPRI)

Notification status

Japan. Kashin-Hou Law List	y (positive listing)
Korea. Toxic Chemical Control Law (TCCL) List	y (positive listing)
China. Inventory of Existing Chemical Substances	y (positive listing)
Australia. Industrial Chemical (Notification and Assessment) Act	y (positive listing)
Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act	y (positive listing)
US. Toxic Substances Control Act	y (positive listing)
EU. EINECS	y (positive listing)
Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL). (Can. Gaz. Part II, Vol. 133)	y (positive listing)

	HMIS	NFPA
Health	3*	3
Flammability	2	2
Physical hazards	0	
Instability		0
Specific Hazard	--	--

16. OTHER INFORMATION

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This MSDS has been prepared by Ashland's Environmental Health and Safety Department (1-800-325-3751).